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The community context of family resources and adolescent delinquency

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The community context of family resources and adolescent delinquency

by

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A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

Major: Human Development and Family Studies

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This is to certify that the master's thesis of

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has met the requirements of Iowa State University

Signatures have been redacted for privacy

TABLE OF CONTENTS

LIST OF FIGURES.....	iv
LIST OF TABLES.....	v
ABSTRACT.....	vi
CHAPTER 1. INTRODUCTION.....	1
CHAPTER 2. LITERATURE REVIEW.....	9
CHAPTER 3. MATERIALS AND METHODS.....	21
CHAPTER 4. RESULTS AND DISCUSSION.....	28
CHAPTER 5. CONCLUSIONS.....	40
REFERENCES CITED.....	45
ACKNOWLEDGEMENTS.....	53

LIST OF FIGURES

Figure 1. The influences of ethnic diversity, family social resources and family adversity on adolescent delinquency.....	8
Figure 2. The influences of minority status on adolescent delinquency at less adverse and at extreme adverse community conditions.....	36
Figure 3. The influences of warm parenting on adolescent delinquency at less adverse and at extreme adverse community conditions.....	37

LIST OF TABLES

Table 1. Descriptive statistics of study variables.....	28
Table 2. Zero-order correlation among study variables.....	30
Table 3. Multilevel models for effects of individual, family, and community characteristics on adolescent delinquency.....	34
Table 4. Multilevel models for the effects of community and family characteristics on mediating variables.....	39

ABSTRACT

The study predicted that community adversity (ethnic diversity), controlling for community poverty, and family adversity (family poverty and single parenthood) would influence adolescent delinquency additively and multiplicatively through family social resources and through individual/control factors. An effective analysis of community influence on individual outcomes requires a multilevel analysis that includes community level, family level, and individual level variables. This quantitative research used data samples from the National Longitudinal Study of Adolescent Health, Wave 1 (1995), and the 1999 U.S. Census. The findings demonstrate that there is (a) a unique influence of ethnic diversity on adolescent delinquency, independent of community poverty and family adversity; (b) an indirect influence of ethnic diversity on adolescent delinquency through family social resources; (c) a moderation of detrimental influence of minority status under highly diverse community environments and dissipation of the beneficial influences of family social resources under highly diverse community environments.

Key words: Adolescent delinquency, Ethnic diversity, Family adversity, Family social resources, Minority status

CHAPTER 1. INTRODUCTION

Adolescent delinquency, such as school misbehavior, alcohol and drug use, as well as violence has become a major social problem in the United States (Thomas & Matherne, 2001). It is estimated that every five minutes, a youth is arrested for some type of violent crime and that every two hours, a child is killed by someone using a gun. It is also estimated that in the United States every day, 1,234 youths run away from home and 2,255 teenagers drop out of school. (Edelman, 1995). Considering the negative consequences of a disadvantaged social context, the present study of community context and adolescent delinquency will demonstrate independent additive influences and joint influences of individual, family, and community factors on adolescent delinquency.

Previous community researchers have demonstrated that youth delinquency is associated with community adversity such as concentrated poverty, residential instability, and ethnic diversity (Hoffman, 2002; South & Crowder, 1999; Aneshenshel & Succoff, 1996; Elliot et al., 1996; Duncan, Brooks-Gunn, & Klebanov, 1994; Sampson & Groves, 1989). In addition, previous family/developmental researchers have demonstrated that adolescent delinquency is associated with family adversity (such as family economic pressure and single parenthood) (Smith & Krohn, 1995; Voydanoff, 1990; Patterson, 1982), family social resources (such as communication and family warmth) (Smith & Krohn, 1995; Geisman & Wood, 1986;), and individual factors such as adolescent self-esteem, being a female, and being a minority (minority status) (Peters & Massey, 1983).

According to the ecological-developmental perspective, adolescents develop within a set of embedded contexts (Leventhal & Brooks-Gunn, 2000; Bronfenbrenner, 1986). It is not possible to isolate family from community because families are nested within a community,

and individuals or adolescents are nested within a family. Thus, community may influence individuals' outcome directly and indirectly through family. Although various studies have documented the association between delinquency and community factors as well as family factors, very little empirical research has investigated the unique influences of these factors and the cross-level multiplicative effects of these factors on delinquency. There is a pressing need to focus in this area using multilevel analysis to investigate how individual, family, and community factors uniquely as well as in combination (cross-level multiplicative effect) influence adolescent delinquencies (South & Crowder, 1999; Simons, Johnson, Beaman, Conger, & Whitbeck, 1996). The present study focus on additive and multiplicative influences of ethnic diversity on adolescent delinquency.

Although inconsistent with the typical hypothesis regarding the buffering influence of social resources (Lin & Ensel, 1989), recent research suggests that the positive influence of social resources (such as family warmth and communication) begins to level off under highly diverse community conditions (Krivo & Petterson, 2000). Perhaps this is due to parents being more protective of their children in what they consider as *harsh* environments. For example, the evidence suggests that Black youth living in White-dominant communities, are disliked, disrespected, and subject to hostility in those neighborhoods, even though their parents may be economically better off than their white neighbors (Boardman, Finch, Ellison, Williams, & Jackson, 2001; Welch, Sigelman, Bledsoe, & Combs, 2001). The negative environment in White-dominant neighborhoods, binds the Black families together, with parental warmth and affection more pronounced, despite adolescents' delinquent behaviors. On the other hand, in Black-dominant communities, the Blacks live in relatively supportive and empowered social environments despite community impoverishment (Korbin, 2001).

Thus, the present study investigated whether family social resources continue to produce positive effects on adolescent delinquency, even in highly diverse communities.

Ethnic diversity has been documented as creating challenges and problems such as lack of uniform behavioral standards, which consequently leads to ineffective social control and delinquency (Patterson, 1982). Other research, however, has documented a high degree of ethnic diversity as having beneficial effects independent of community poverty that vary from social resources, ideas, styles, vision, creativity, innovation and history. It is argued that ethnic diversity's benefits could be through enhancement of informal community social resources (Wickrama & Bryant, in Press) and effective use of the diverse talents of the community members to increase innovation, productivity and enhance teamwork, subsequently reducing economic pressure and interpersonal conflicts (Nixon & West, 2000). Thus, I contended that there would be a nonlinear influence of community adversity on adolescent delinquency.

Minority status is a distinct factor and different from ethnic diversity. While ethnic diversity is a community characteristic, minority status is an individual characteristic. According to the research, minority status has a positive and detrimental influence on adolescent delinquency (Carroll, 1998; Meyer, 1995). The research reveals that *minority stress* is caused by the stigma attached to being a minority. This stress creates powerlessness and hopelessness which is expressed through heavy drinking, drug use and gang violence (Carroll, 1998). Ethnic diversity, however, is expected to moderate the influence of minority status on adolescent delinquency, whereas being a minority is expected to reduce the rate of delinquency in high ethnic diverse communities than in White-dominant communities. The

reduction of delinquency is attributed to minorities being in a more supportive environment (Korbin, 2001).

According to the previous research, there is a reciprocal relationship between adolescent self-esteem and adolescents' delinquent behavior (Owens, 1994; Kaplan, 1975a). Problems result when adolescents fail to conform to the standards of the conventional reference groups that consequently reject him/her. Such rejection leads to negative self-evaluations which subsequently motivate individuals to seek alternative sources of self-regard. One alternative that is available to many adolescents is association with deviant peers and involvement in delinquent behavior. Success at conforming to the deviant standards of this new reference group then results in positive self-regard (Mason, 2001).

The present study examines the hypothesized influences of community adversity and family/individual factors on adolescent delinquency net of the influence of adolescent self-esteem, gender, and community poverty. By adding the control factors in the model, the study aims at determining the unique influence of ethnic diversity on adolescent delinquency, the moderating influence, and indirect influence through family social resources, net of the influence of community poverty, gender effect, and positive feelings of adolescents.

The main focus of the present study is the influence of ethnic diversity in communities and its effects on adolescent delinquency. Thus, the present study will examine several important research questions: First, does ethnic diversity influence adolescent delinquency independent of community poverty and family characteristics, and is this influence linear? Second, do family adversities (such as family economic pressure and single parenthood) influence adolescent delinquency independent of community adversity (such as ethnic diversity)? Third, do family social resources (such as family warmth and

communication), mediate the effects of ethnic diversity on adolescent delinquency? Fourth, does ethnic diversity moderate the effects of family social resources (such as warmth and communication) and family adversities (such as family economic pressure and single parenthood) on adolescent delinquency? Fifth, does minority status increase the level of adolescent delinquency? Sixth, does ethnic diversity moderate the detrimental effect of minority status on delinquency, or vice versa?

The study used a multilevel technique and school-based data from a nationally representative sample of 20,745 adolescents from 1999 U.S. Census tracts (U.S. Bureau of Census, 1999). The longitudinal study of adolescent health data was collected as part of the National Adolescent Health Study.

Some previous studies exploring the association between family factors and adolescent developmental outcomes may have yielded spurious results, given the common influence of community factors (Wickrama & Bryant, in press). Also the findings of some of the community studies may be attributed to *ecological fallacy*, which involves the interpretation of aggregated-level findings at the individual level. The concept of ecological fallacy is based on Robinson's research that it is erroneous to use ecological correlations as a substitute for individual correlations (Bryk & Raudenbush, 1992; Robinson, 1950).

According to Robinson's findings, known as *Robinson's effect*, aggregated measurements analyzed at higher levels of the hierarchy can produce results that are different from the original individual results. Furthermore, using such measurements could produce *aggregation bias*, because individual-level relationships of two variables are not the same as relationships between groups. Therefore, when changing from one level to another (aggregating data into higher-level units), there is a likelihood of losing statistical power.

Similarly, disaggregation of data into lower-level units produces the likelihood of increasing power over valued units (Bryk & Raudenbush, 1992; Robinson, 1950). Multilevel analyses can address such problems associated with both spuriousness and ecological fallacy, thereby improving upon previous work.

The Theoretical Model

Figure 1 outlines the theoretical model that guides the present analyses. The model proposes that ethnic diversity controlling for community poverty would have significant detrimental and unique influences on adolescent delinquency (path 1). The model also proposes that ethnic diversity controlling for community poverty would have negative and detrimental effects on family social resources, such as family warmth and communication (path 2a).

Family warmth or warm parenting refers to the expressions of affection toward a child, responsiveness to his or her sensitivities and adaptation to that child's needs and desires (Schwartz & Knafo, 2003). Communication, on the other hand, refers to a process by which information is exchanged between a parent and a child through a common system of symbols, signs or behavior (Samovar & Porter, 1994).

The model also proposes that family adversities, such as family economic pressure and single parenthood, would have negative and detrimental effects on family social resources, such as family warmth and communication (path 3a). The model further proposes that lack of family social resources (such as warmth and communication) and prevalence of family adversities (such as family economic pressure and single parenthood) directly contribute to adolescent delinquencies (as shown in path 2b and path 3b, respectively).

In addition, paths 4a and 4b in the model project that ethnic diversity in the community controlling for community poverty would moderate the effects of family social resources and family adversities (respectively) on adolescent delinquency. Finally, as shown by path 5a, I expect ethnic minority status to increase the level of delinquent behaviors. Ethnic diversity however, is expected to moderate the detrimental influence of minority status (path 5b). (This is the same as minority status moderating the detrimental influence of ethnic diversity). Control variables in the model include community poverty, adolescent self-esteem and gender.

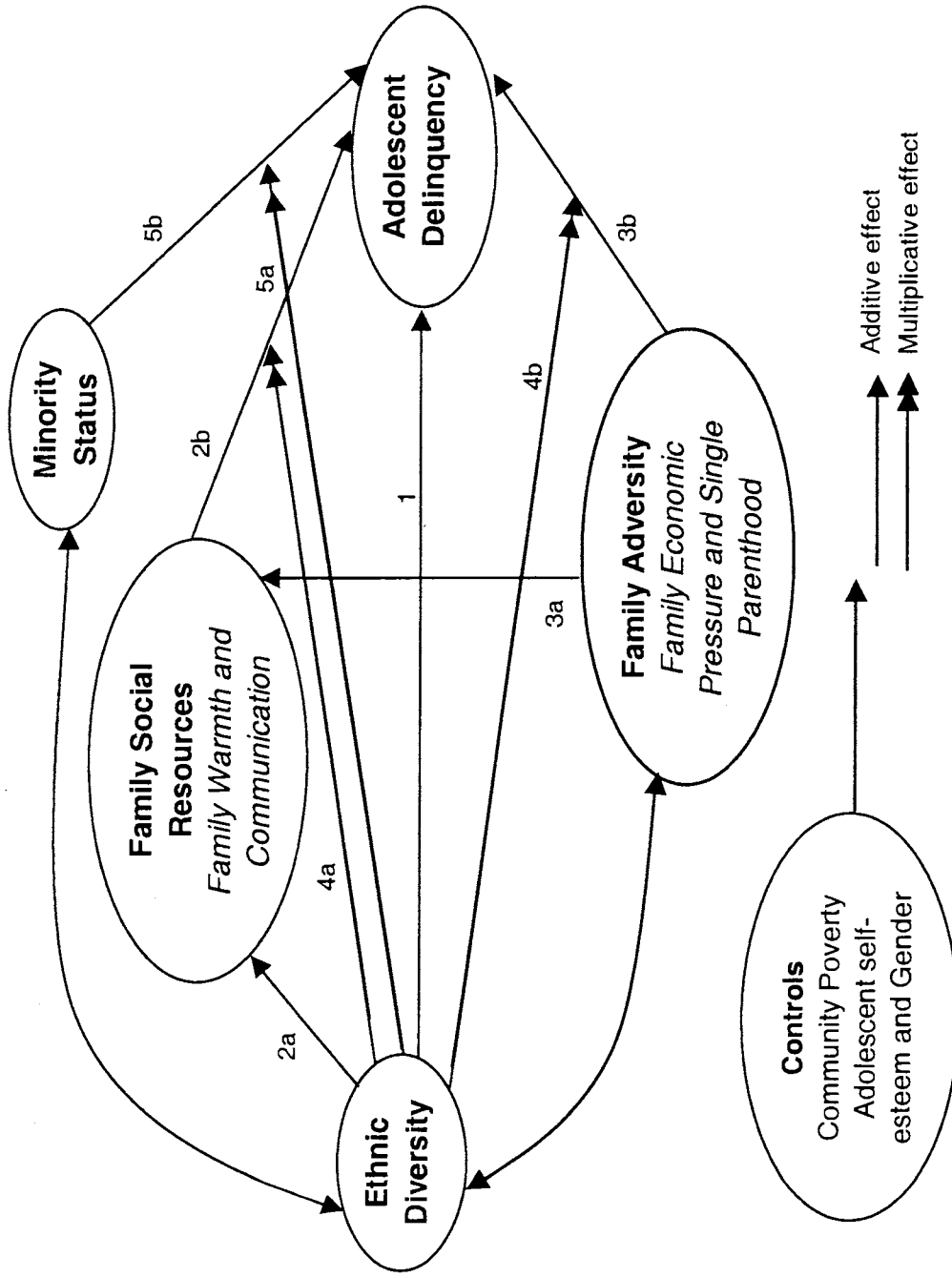


Figure 1. The theoretical model: Influences of ethnic diversity, family social resources, family adversity and individual factors on adolescent delinquency.

CHAPTER 2. LITERATURE REVIEW

In this chapter, I will review the literature according to the sequence of the relationships shown in the theoretical model. Beginning with community ethnic diversity, I will review: First, literature related to additive effects; Second, literature on hypothesized moderating effects.

Ethnic Diversity and Family Social Resources

Racial/ethnic heterogeneity of a population generates diversity in cultural values and norms (Elliot et al., 1996). Theories such as social disorganization (Shaw & Mckay, 1942) point out that an ethnically diverse community with groups (each with its own unique set of values and norms) undermines communication between neighbors. The diversity of such groups thwarts the ability of residents to achieve consensus about appropriate goals and standards of behavior. Lack of uniform behavioral standards consequently leads to ineffective social control, a situation that leaves adolescents confused (especially being in a forced situation), as they must use different sets of rules in the street, at school and at home. Such a situation then forces parents to be stricter with their children in order to enforce family rules and values (Patterson, 1982). Parental strictness subsequently creates tension in the family and negatively affects family warmth and communication (Sampson & Groves, 1989).

Conversely in *highly* segregated communities -- where minorities have little contact with the larger non-minority group -- the minority may have more opportunities to form and maintain informal social networks and good relationships among themselves (Ross, Mirowsky, & Pribesh, 2001; Aneshenshel & Sucoff, 1996). In addition, very high levels of segregation may also raise the relative social status of minorities within the community, as

opposed to living in the same neighborhood with non-minorities who are perhaps more educated and well-to-do than individual minorities.

Based on the literature review, I hypothesize that ethnic diversity controlling for community poverty would have negative and detrimental effects on family social resources. However, under highly diverse conditions, ethnic diversity would have positive and beneficial effects on family social resources. That is, I expect ethnic diversity to have a non-linear relationship with family social resources.

Ethnic Diversity and Family Adversity

Structural racism in American society stems from systematic and institutionalized practices resulting in subordination and devaluation of minority groups and the setting up of life course barriers for all of its members' life course experiences (Sampson, 2001). Massey and Denton (1993) describe how increasing economic dislocation interacts with the spatial concentration of a minority group to create a set of structural circumstances, which reinforces the effects of social and economic deprivation. Studies show that segregated environments cause a shift in the distribution of minority income, which brings about family poverty (Sampson, 2001), financial misunderstandings, and marital conflict (Sampson, 1987).

The research has also shown that poor neighborhoods attract minorities from different backgrounds who are usually trapped in the poor neighborhoods because of limited financial ability to move into affluent neighborhoods (Sampson, 2001). According to the research, these community adversities may also cause deterioration of social trust, leading to the breakdown of communication (Ross et al., 2001; Elliot et al., 1996; Wilson, 1991; Sampson & Groves, 1989). Community diversities may also inhibit or impede the formation of shared norms, values, and relationships (Sampson, 2001).

Based on the literature review, there is an association between community adversity and family adversity, with both causing one another. Thus, I hypothesize that ethnic diversity is associated with family adversity (non-directional association).

Family adversity and Family Social Resources

Various researchers have documented the relationship between family adversity and family social resources. In *The Truly Disadvantaged*, Wilson (1987) undertook an analysis of the structural changes in the post-industrial society that contribute to an increase in the number of poor and jobless people in the inner-city neighborhoods. In his argument, Wilson linked structural changes and the behavior of the individuals and residents of inner-city, poor neighborhoods. The research suggests that among families in such neighborhoods, few individuals hold jobs and single-parent households are prevalent, which may produce what is termed *social isolation* (that is, the socialization practices and family lifestyles led by these poor and single-parent families -- a lifestyle that does not encourage good parenting practices such as warmth and communication). Such families have greater psychological distress which over time weakens parents' ability to handle subsequent stress, which in turn leads to poor or impaired parenting behavior (Klebanov, Brooks-Gunn, & Duncan, 1994).

Based on the literature review, I expect that family adversity (such as family economic pressure and single parenthood) controlling for community adversity, would have a significant detrimental effect on family social resources.

Family Adversity and Adolescent Delinquency

Previous research documents that there is a link between family economic hardship and adolescent delinquency (Voydanoff, 1990). According to the research findings, adolescents from poor families resort to delinquent acts due to stress exerted by family

economic pressure. The research also points out that failure to meet family basic needs, overcrowding, utility shut-offs, inadequate heating, and other housing-quality problems create tension in a family and lead to adolescents' frustration which may be expressed through heavy drinking, violence, and drug use (Sherman, 1994; McAdoo, 1986; Dressier, 1985). For example, research reveals that 25.2% of children from poor parents had no health insurance at all in 1998 (U. S. Bureau of the Census, 1999). This caused stress for these adolescents and their families, because many doctors refuse Medicaid patients due to low reimbursement rates from the government, notwithstanding the inability of most of these parents to pay even small fees for covered medical services (Sherman, 1994).

Studies have consistently demonstrated that children from single-parent families are more susceptible to problems than are children from traditional families (Simons, Johnson, Beaman, Conger, & Whitbeck, 1996; Featherstone, Cundick, & Jensen, 1993). Likewise, adolescents from intact two-parent families are less likely to report school problems than are children from single-parent families. The economic pressure on female heads of families contributes to long hours of work at low wages away from the children (Austin, 1992). Family research does suggest that when there is only one parent in the home, all other things being equal, parental capacities are stretched. Single parents find it hard to cope with work/job, running errands and dedicating enough time to be with their children, let alone supervising their activities or providing for their basic needs adequately. Lack of adequate parental supervision may then lead to adolescents relying on peers for advice, which may in turn lead to the bad influence of drug use, drinking, violence, and other behavioral problems (Simons, et al., 1996; Dornbusch et al., 1985).

Based on the literature review, I hypothesize that the prevalence of family economic pressure and being a single parent contributes to adolescent delinquency.

Family Social Resources and Adolescent Delinquency

Many family variables have been studied in an attempt to better understand the etiology of delinquency. From the general perspective, the family is seen as the key group to which adolescents are attached, and therefore can exert a great deal of control over their behavior. On the other hand, if the family bond is not strong due to whatever reasons, then control is weakened, thus increasing the probability of delinquency (Smith & Krohn, 1995). Although delinquency may be blamed partly on poor parenting, the gist of research and writing on delinquency indicates that the family is rarely the direct cause -- although often the contributing influence -- of adolescent delinquency. Even in urban communities that are hotbeds of delinquency, parents do not socialize their offspring into a life of delinquency. Thus a parent's act in family processes is likely to be one of omission rather than commission (Geisman & Wood, 1986). On the other hand, a cohesive family environment with loving, warm and caring parents reduces the chances of delinquent behavior in adolescents (Simons, et al., 1996).

In a study of self-reported delinquency among boys, it has been noted that as the intimacy of communication between the parents and the child increased, the likelihood that the child will commit delinquent acts decreased (Flannery, Williams, & Vazsony, 1999; Simons, et al, 1996). Parental involvement and communication with children solidify the relationship bond between a child and a parent. Good relationship bonds allow parents to know what is going on in their children's lives (e.g., with whom they are associating), and to therefore more closely monitor their children's behavior. Adolescents who have a strong

bond with their parents are less likely to be delinquent while those without parental supervision are more likely to engage in delinquent acts (Flannery, et al., 1999). Thus, delinquency is associated with poor parenting, which is characterized by distant, non-communicative and uncaring parenting (Simons, et al., 1996; Larzele & Patterson, 1990).

Based on the literature review, I hypothesize that lack of family social resources as indicated by close parent-child relationships contributes to adolescent delinquency.

Ethnic Diversity and Adolescent Delinquency

Numerous studies and theories have shown a link between adolescent delinquency and ethnic diversity. In his theory of *concentration effects*, Wilson (1987) argued that social transformation of inner-city areas in the United States during the last three decades resulted in concentrations of poverty and racial segregation which led to delinquency (Sampson, 2001; Wilson, 1987).

In *sub-culture theory*, delinquent behavior is explained through the structural and cultural differences arising from the isolation of the racial minority. According to this theory, segregation of racial minorities in poor neighborhoods contributes to inferior educational and employment opportunities, which in turn, enhances the likelihood of adolescent delinquency as a means of survival (Jarjoura, Triplett, & Brinker, 2002; Sampson, 2001; Hagan & Peterson, 1995; Agnew, 1992). I contend that this influence of ethnic segregation is at least in part, independent of the detrimental influence of the community's poverty level.

As opposed to minority segregation, a study that links delinquency to the ethnic diversity of a population points out that racial/ethnic heterogeneity of a population generates diversity in cultural values and norms, which in turn gives rise to normlessness (Elliot et al., 1996). Consequently, this normlessness gives rise to gangs and illegitimate enterprises such

as gambling, prostitution, extortion, theft, and drug distribution networks in the neighborhoods (Elliot et al., 1996; Shaw & McKay, 1942).

Persistence of delinquent acts in these neighborhoods is partly because the gang leaders provide their members with jobs, food, clothing, role models and self-affirmation. These provisions satisfy delinquents' basic individual and social needs in the same way that stable families, pro-social peers and legitimate employment satisfy non-delinquents' needs and reinforce conventional behavior (Elliot et al., 1996).

Based on the literature review, it is expected that ethnic diversity will have a significant and additive influence on adolescent delinquency independent of the influence of poverty level of the community as a whole, but the effect *may level off* under extreme diverse community conditions. Positive changes in adolescent developmental outcomes perhaps are due to positive psychological, social and economic aspects brought about by the extreme diverse population and not by the mere fact that a community is composed of people from different ethnic or social backgrounds. To test for such positive influence, I squared the construct representing ethnic diversity in the analyses as a means of capturing the potential non-linear influence of ethnic diversity.

Minority Status (African American, Native American, Mexican American, Asian American) and Adolescent Delinquency

Numerous studies have documented a link between minority status (as individual characteristics) and adolescent delinquency. Minority status is an individual factor that is unique and different from ethnic diversity, which is a community factor. Minority groups are subjected to what is known as *minority stress*, or a chronic psychosocial stress related to their stigmatization (Meyer, 1995; Brooks, 1981). Conflict between individuals and the social

environment experienced by minority group members (Mirowsky & Ross, 1989) is the essence of minority stress. Being a minority is regarded as a disadvantaged status as compared to majority. They have feelings of powerlessness due to stress related to their stigmatization. Symbolic interaction and social comparison theories give a different perspective. These theories view the social environment as providing people with meaning to their world and organization to their experiences (Stryker & Stratham, 1985). Negative regard from others therefore leads to negative self-regard, mental health outcome and delinquent behavior. Their distress and hopelessness lead them to heavy drinking and drug use. (Crocker & Major, 1989).

The studies have shown that on the national level, minority youths are arrested in numbers greatly disproportionate to their numbers in the general population. While black youths comprise approximately 15% of the 10–17 year-old population at risk for delinquency, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Census characterizes minority children in custody as over-represented (Bishop & Frazier, 1996).

The Real War on Crime, a 1996 study by the non-profit *National Criminal Justice Commission* (Dozinger, 1997), found that if the growth rate continues apace for the next ten years, by the year 2020 more than six out of ten African American men between the ages of eighteen and thirty-four will be behind bars, out of a total prison population estimated to be 10 million persons. According to the study, African American men, who make up only seven per cent of the country, represent half the people behind bars. Studies in cities such as Baltimore and Washington, D.C., reveal that over half of all black men aged 18 to 35 are in prison, jail or parole on a given day. Nationwide, one in three black men are under some form of justice supervision. Interestingly, the same over-representation holds for other

minorities: Mexican Americans make up 10 percent of the population in California, but 20 percent are in jail. In North Dakota, where the African American and Mexican American populations are quite small, Native Americans are over-represented in prison, as they are in Alaska too (Dozinger, 1997).

One theory behind the delinquency-and-minority link is partly explained by the fact that millions of delinquent minority youth who enter the juvenile correctional system for non-violent offenses return back to their communities worse than when they left it. First, they return as *prisonized* and they no longer fear prisons or juvenile correctional facilities or see such facilities as abnormal. These adolescents claim that everyone they know has been touched by the system. Despite being free from jail or detention camp, their criminal records make it very difficult to have employment opportunities. Hence they have less earning potential. Such a situation makes it possible for them to involve themselves again in delinquent behaviors and criminal acts. The theory behind the delinquency-and- minority link also attributes delinquency to the minority environment. For example, previous findings point out that African American youths are not only more likely to be exposed to drug abuse in their neighborhoods than are Caucasian youths, but are also more likely to be exposed at an earlier age than Caucasian adolescents (Ziedenberg, 1998).

Based on the literature review, I expect minority status to increase the level of delinquent behavior.

Moderating Influence of Ethnic Diversity

The literature has documented the main effects of family factors -- especially parenting practices on adolescent delinquency (Conger, Ge, Lorenz, Elder, & Simons, 1994; Patterson, Reid, & Dishion, 1992). Also documented is the influence of minority status on

adolescent delinquency (Ziedenberg, 1998; Bishop & Frazier, 1996). While the influence of family factors or minority status on adolescent delinquency may be moderated by community characteristics such as ethnic diversity (Ge, Brody, Conger, Simons, & Murry, 2002), little is known about how: (a) family factors (family economic pressure, single-parenthood, communication, and family warmth) and community factors (ethnic diversity) would jointly influence adolescent delinquency; (b) minority status and ethnic diversity would jointly influence adolescent delinquency.

This research takes into account the conditioning effect of ethnic diversity because previous research has shown that in highly diverse communities, the beneficial effect of family social resources disappears and ethnic diversity, interestingly, may positively influence developmental outcomes of minority adolescents (Wickrama, Noh, & Bryant, in press).

Based on the literature review, it is expected that the beneficial effects of family social resources (such as family warmth and communication) on adolescent delinquency would level off under extremely diverse community conditions. I also expect the moderation of influence of minority status on adolescent delinquency at extreme diverse community conditions. Thus, there would be multiplicative influences between community diversity and family/individual factors. More specifically, I expect minority status to moderate the detrimental influences of ethnic diversity (joint effect between minority status and ethnic diversity, as noted earlier).

Individual/Control Factors and Adolescent Delinquency

Previous research has documented that individual variables such as community poverty, adolescent self-esteem, and gender are correlated with adolescent delinquency

(Duncan, Connell & Klebanov, 1997; Smith & Krohn, 1995). Among the types of research examining the association between poverty and delinquency, ethnographic research provides the most consistent evidence linking poverty to delinquency (Anderson, 1990).

In the previous research, sociologists and psychologists have given a great deal of attention to the reciprocal relationship between self-esteem and delinquency (Owens, 1994). According to Kaplan's (1975a) self-derogation theory of delinquency, the self-esteem motive is evident during adolescence, when most boys and girls develop favorable views of self within the confines of commitment to conventional reference groups (such as family relationship and mainstream friendship network). In turn, these reference groups support the positive self-evaluations of their members.

According to the previous research and as earlier stated, problems result when boys and girls are unsuccessful at conforming to the standards of these conventional reference groups, and are consequently rejected by peers. Such rejection leads to negative self-evaluations which subsequently motivate individuals to seek alternative sources of self-regard. One alternative that is available to many adolescents is association with deviant peers and involvement in delinquent behavior. Success at conforming to the deviant standards of this new reference group results in positive self-regard (Mason, 2001). Therefore, there is an association between adolescent self-esteem and adolescent delinquency.

Thus, the study will examine the hypothesized influences of community adversity and family/individual factors on adolescent delinquency net of the influence of adolescent self-esteem, gender, and community poverty. After adding the control factors (community poverty, adolescent self-esteem, and gender) into the model, the study aims at determining the unique influence of ethnic diversity on adolescent delinquency, the moderating influence,

and indirect influence of ethnic diversity through family social resources, net of the influence of community poverty, gender effect, and positive feelings of adolescents. In that regard, it is expected that community poverty will be positively correlated with adolescent delinquency and that being a girl will be negatively correlated with adolescent delinquency.

CHAPTER 3. MATERIALS AND METHODS

Sample and Procedure

Data for this quantitative research were from the 1995 National Longitudinal Study of Adolescent Health, Wave 1 (Urdu & Bearman, 1995). The study uses the in-home interview data from adolescents and parents, along with the 1999 U.S. Census. The Adolescent Health data is comprised of information collected from a nationally representative sample of high school students. The data focuses on adolescents' lives, particularly their health and health behavior.

The data collection was based on a complex cluster-sampling frame. Each case in the core sample was assigned a weight based on the sampling design so that the sample is nationally representative of U.S. adolescents in grades 7 through 12. Sample weights were used to ensure national representativeness. The primary sampling frame included high schools in the United States that had an eleventh grade and at least 30 students enrolled in the school. A systematic random sample of high schools was selected from this sampling frame. The sample was stratified by region, urban city, school type, ethnic mix, and size. The final sample included 134 schools. Schools varied in size from fewer than 100 to more than 2,000 students.

Using school rosters, a sample of adolescents was selected for in-home interviews. Minority adolescents were over-sampled and added to the core sample. The total sample size was 20,745 adolescents who completed ninety-minute interviews during the first wave of data collection in 1995. During the more sensitive portions of the interview, adolescents listened to questions through earphones and directly entered their responses into laptop

computers, thereby greatly reducing any potential for interviewer or parental influences on their responses.

The adolescents' ages ranged from 13 to 19 years. The sample included 58% Caucasians, 22% African Americans, 9% Mexican Americans, 7% Asian Americans, and 4% Native Americans. A total of 51.1% adolescents were males and 48.9% were females. Approximately 79% of adolescents were from two-parent families. Only 17,500 parents provided interview data and only 14.1% of the mothers and 11.1% of the fathers had less than a high school education. Also from the data, 24.4% households were considered below the poverty line.

Through a set of linked identifiers -- the contextual (Census data) and in-home data sets and the school administrator and parent surveys -- the school administrator and parent surveys were merged. Extensive precautions were taken to maintain confidentiality and to guard against deductive disclosure of participants' identities. All protocols received institutional review board approval (Goodman, 1999). Census track was used as communities, whereas family and individuals were assessed as same level because only one individual per family was included in the analysis (Wickrama & Bryant, in press).

Measurements

Delinquency: Delinquency was operationalized as the number of times each adolescent reported (in the interview) engaging in one or more of the following six negative behaviors: (a) lied to parents about whereabouts; (b) was involved in a serious physical fight; (c) used or threatened with a weapon; (d) sold drugs; (e) took part in a group fight; (f) was loud/rowdy in a public place. The behaviors were rated on scale 0 (never) to 3 (5 or more times). Factor analysis and reliability analysis led to the selection of the six behaviors as

being internally consistent with one another. Items were summed and coded such that higher scores reflected higher delinquency (Cronbach's $\alpha = .70$).

Ethnic diversity: Ethnic diversity was operationalized as the proportion of minorities in the community. I used percentages of non-Caucasians as the ethnic minority measure (Ennett, Flewelling, & Norton, 1997). As in the case of community adversity, I computed and used Census tract-level averages of individual scores obtained from the 1999 U.S. Census data.

Community poverty: Community poverty was included in the analysis as a control variable. A score representing the community poverty for each adolescent was generated by summing four indicators corresponding to his/her Census-tract information from the 1999 U.S. Census (Contextual data set). Those indicators included: (a) the proportion of families living in poverty; (b) the proportion of single-parent families; (c) the proportion of adults employed in service occupations, and (d) the proportion of unemployed males (Cronbach's $\alpha = .78$).

Family economic pressure: In the present study, both family and the individual represent the same level of measurement. A measure of family economic pressure was generated by summing five hardship items and family income reported by the respondent-parent. The family economic hardship items asked whether any member of the household received social welfare benefits such as Social Security, Supplemental Security Income, Aid to Families with Dependent Children, Food Stamps, and/or any housing subsidy. Family income was dichotomized (1, 0) and added to family economic hardship items. Higher scores reflected greater economic pressure (Cronbach's $\alpha = .64$).

Single parenthood: A measure of single parenthood was represented by a dummy variable coded 1 for single (including separated, divorced, and widowed) and 0 for non-single.

Communication: A measure of communication was generated by the summing of three communication-with-mom items (separately), as reported by the adolescent. These were rated on a scale of 1 (strongly agree) to 5 (strongly disagree). The items asked the adolescent whether (a) mom discusses ethics with them; (b) they have good communication with mom; and (c) they have good relationship with mom. Items were coded such that higher scores indicated a stronger communication (Cronbach's $\alpha = .85$).

Family warmth: Family warmth was measured by summing three items about caring. The items were rated on a scale of 1 (not at all) to 5 (very much). These items asked adolescents to indicate whether (a) parents care about him/her; (b) family understands him/her; (c) family pays attention to him/her. The items were coded such that higher scores indicated greater warmth (Cronbach's $\alpha = .78$).

Adolescent self-esteem: Adolescent self-esteem was included in the analysis as a control variable. A measure of adolescent self-esteem was generated by summing nineteen items as reported by the adolescent. The items were rated on a scale of 1 (strongly agree) to 5 (strongly disagree). Among other questions the items asked adolescents was to indicate whether he/she (a) has a lot to be proud of; (b) likes himself/herself as he/she is; (c) feels socially accepted; (d) feels loved and wanted. Items were coded such that higher scores indicated a strong relationship (Cronbach's $\alpha = .79$).

Gender: Adolescent gender was included in the analysis as a control variable. It was dichotomized with dummy variables coded 1 for females and 0 for males.

Minority Status: Minority status was operationalized as ethnicity and it was dummy coded 1 for minority (including African American, Asian American, Mexican American, and Native American) and 0 for non-minority (Caucasian).

Data Analysis

Using multilevel regression models, the research examined the influence of individual/control, family and community level predictors on the individual level outcome variable -- adolescent delinquency. Because only one adolescent report from each family was analyzed in the study, both family characteristics and individual reports were considered as the same level (individual/family) variables in the multilevel analysis. The analysis for the data was done as follows: (1) running descriptive statistics to determine the mean, the standard deviation, the minimum and the maximum for all the study variables (Table 1); (2) running a correlation matrix to determine the relationships among all the study variables, and also to find out the predictors that have the highest or the lowest bivariate correlation with adolescent school problems (Table 2); (3) estimating the multilevel models using SAS PROC MIXED procedure; that is, running multilevel models for the effects of individual, family, and community characteristics on adolescent delinquent behavior (Table 3); (4) running a regression analysis to determine the unique influences of each variable independently on family resources (warmth and communication). That is, running multilevel models for the effects of community and family characteristics on dependent variables (family warmth and communication) (Table 4); (5) running correlations between delinquency and significant interaction variables to determine the dissipation or intensification of the influence of the significant variable (minority status and warm parenting) by ethnic diversity (Figure 2 and Figure 3, respectively).

SAS PROC MIXED procedure was used because of the nested nature of the data, where individuals and families are nested within communities; therefore, individual error terms may be correlated within communities, and ordinary least square estimates (standard errors in particular) may be biased (Bryk & Raudenbush, 1992).

$$\text{Del}_{ij} = \beta_0 + \beta_1 (X)_{ij} + \beta_2 (W)_j + \beta_3 (W * X)_{ij} + \zeta + \varepsilon$$

Individual delinquency of i^{th} adolescent in the j^{th} community is predicted by individual level X variables, community level W variables, and interaction terms (e.g., $W * X$). Multilevel models include error terms at the individual level (ε) and cluster level (ζ) and their variances (Bryk & Raudenbush, 1992). The use of PROC MIXED procedure in SAS is a recent development in hierarchical linear models and a step in overcoming the limitations or inadequacy of conventional statistical techniques for the estimation of linear models with nested structures (Little, Milliken, Stroup & Wolfinger, 1996). In social science, these limitations generated concerns about aggregation bias, misestimated precision, and *the unit of analysis* problem. PROC MIXED procedure permits efficient estimation for a much wider range of applications by posing hypotheses about relations occurring at each level and across levels, and also assesses the amount of variation at each level (Bryk & Raudenbush, 1992). The present analysis took into account the age of adolescents by selecting only adolescents of age not more than 20 years old.

Hypothesized multilevel model:

$$\text{Del}_{ij} = \gamma_{00} + \gamma_{01}(\text{CP}) + (\text{ED}) \gamma_{03} + (\text{ED})^2 \gamma_{04} + \gamma_{11}(\text{FAMECO}) + \gamma_{13}(\text{SINGLEPA}) + \gamma_{14}(\text{WARMTH}) + \gamma_{15}(\text{COMMUNI}) + \gamma_{16}(\text{ADOLSELF}) + \gamma_{17}(\text{MINO}) + \gamma_{18}(\text{FEMALE}) + \gamma_{19}(\text{ED X MINO}) + \gamma_{20}(\text{ED X WARMTH}) + \text{Second level variances} + \sigma^2$$

Where:

CP = Community poverty

ED = Ethnic diversity

ED² = Ethnic diversity (Squared term)

FAMECO = Family economic pressure

SINGLEPA = Single parenthood

WARMTH = Family warmth

COMMUNI = Communication

ADOLSELF = Adolescent self-esteem

MINO = Minority status

CHAPTER 4. RESULTS AND DISCUSSION

Means, standard deviations, minimum, maximum and skewness of all study variables are shown in Table 1. The skewness values for the study variables, except for single parenthood (2.17), lie between -2 and $+2$ indicating acceptable distributions for all the (continuous) study variables.

Table 1. Descriptive statistics of study variables

	M	SD	Min	Max	Skewness
Delinquency	2.93	3.30	0.00	24.00	1.96
Community poverty ^c	-0.00	0.16	-0.26	1.79	1.72
Ethnic heterogeneity	0.38	0.35	0.00	1.00	1.06
Family economic pressure ^c	0.83	1.14	-0.48	5.52	1.72
Single parenthood	0.07	0.05	0.00	0.67	2.17
Family warmth ^c	0.00	2.59	-13.00	3.00	-1.11
Communication ^c	7.78	3.50	-18.43	11.57	-0.77
Adolescent self-esteem ^c	45.9	6.04	1.00	78.00	0.08
Gender	1.50	0.50	1.00	2.00	-1.99
Minority status	0.38	0.49	0.00	1.00	-1.77

^c mean centered

Table 2 examined zero-order correlations among all the study variables. The analytical results found that community adversity (ethnic diversity), family adversity (family economic pressure and single parenthood), family social resources (family warmth and communication), the control variables (adolescent self-esteem and being a female), and individual variable (minority status) were all significantly correlated with adolescent delinquency ($p < .001$). The zero-order correlation between community poverty and ethnic diversity was ($r = .50$). This moderately high correlation is evidence of discriminant validity of those two concepts. That is, community poverty and ethnic diversity can be treated as distinct community characteristics. Family warmth and communication were also significantly correlated ($r = .52$).

However, ethnic diversity and minority status are the highest correlated variables ($r = .74$), indicating a high degree of segregation in the communities. In addition, minority status is significantly correlated with community adversity (community poverty and ethnic diversity), family adversity (family economic pressure and single parenthood) and individual factor (adolescent self-esteem) at ($p < .001$). However, minority status' correlation with family social resources (family warmth and communication) has no significance and is almost zero, indicating no association between minority status and family social resources.

Table 2. Zero-order correlation among study variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Adolescent delinquency	1.00	0.02	0.03***	0.05***	0.02**	-0.20***	-0.27***	-0.12***	-0.10***	0.03***
2. Community poverty		1.00	0.50***	0.23***	0.73***	0.02**	-0.02*	0.10***	0.02*	0.32***
3. Ethnic diversity			1.00	0.07***	0.49***	0.00	-0.02**	0.06***	0.01	0.72***
4. Family economic Pressure				1.00	0.21***	-0.00	-0.02***	0.10***	0.01*	0.07***
5. Single parenthood					1.00	0.02***	-0.02*	0.11***	0.02**	0.37***
6. Family warmth						1.00	0.52***	0.36***	-0.06***	0.00
7. Parental communication							1.00	0.28***	-0.04***	0.01
8. Adolescent self-esteem								1.00	0.11***	-0.07***
9. Gender									1.00	0.00
10. Minority status										1.00

* $p < .05$ ** $p < .01$.*** $p < .001$

Table 3 presents models with unstandardized regression coefficients predicting adolescent delinquency. In Table 3, I estimated several nested models as a means of testing my hypotheses. Null Model is a simple random intercept model (ANOVA) of adolescent delinquency with no predictors. Model 1 presents the effects of ethnic diversity on adolescent delinquency, controlling for community poverty. In this model, I have both community adversity and family characteristics together for the purpose of reducing the chances of selection effects due to the family adversity characteristics. Community poverty and ethnic diversity were correlated (in Table 1) with $r = .50$. While controlling for community poverty, ethnic diversity was significant ($B = .91, p < .001$); that is, ethnic diversity had a linear positive effect on adolescent delinquency. The quadratic term of ethnic diversity (ethnic diversity squared) had a negative influence on adolescent delinquency ($B = -.75, p < .05$), meaning that the association between ethnic diversity and adolescent delinquency is curvilinear. The detrimental influence of ethnic diversity levels off under high ethnic heterogeneous conditions. Besides ethnic diversity, family economic pressure was also found to be significant ($B = .14, p < .001$), meaning that family economic pressure had an independent linear positive effect on adolescent delinquency. The community adversity model accounted for 46% of the between total variance in adolescent delinquency (Snijders & Bosker, 1999).

Model 2 in Table 3 adds family social resources (family warmth and communication), and the control variable (adolescent self-esteem) in order to determine whether adding the constructs would reduce the detrimental effects of the observed community effect (ethnic diversity) and individual/family effects (economic pressure and single parenthood). In accordance with previous findings, delinquency was associated with poor parenting, which is

characterized by distant, non-communicative and uncaring parenting (Larzele & Patterson, 1990). Consistent with my expectations, family warmth ($B = -.10, p < .001$) and communication ($B = -.21, p < .001$) had unique and significant or beneficial effects on adolescent delinquency. Also consistent with my hypothesis, the 30% reduction of ethnic diversity from .91 in Model 1 to .61 in Model 2, suggests that the influence of ethnic diversity partly operates through family social resources. Model 2 accounts for 54% of the total variance.

Model 3 adds individual level variables (minority status) and control (gender), as well as the interactions between ethnic diversity and minority status. The aim is to find out the unique effect of gender and ethnicity, as well as the moderation effect of ethnic diversity on the relationship between family/individual characteristics and adolescent delinquency. Consistent with previous research (Smith & Krohn, 1995), the current research found that delinquency was higher among adolescent boys than among adolescent girls ($B = -.64, p < .001$), and it was higher among the minority group than among the non-minority ($B = .38, p < .01$). In Model 3, the inclusion of interaction terms (ethnic diversity and minority status) is significant and negatively associated with adolescent delinquency ($B = -.55, p < .05$). That means being a minority in more diverse community has a beneficial or less detrimental effect on adolescent delinquency (as shown in Figure 2). Being a minority reduces the harmful effect of diversity by -.55. Alternatively, this interaction can be interpreted as a moderation of detrimental influence of minority status on adolescent delinquency by the level of community adversity. That is, in highly diverse communities, minority status has a beneficial or less detrimental effect on adolescent delinquency.

Model 4 adds the interaction between ethnic diversity and family warmth. This interaction effect is significant ($B = .10, < .05$). That is, under extreme diverse conditions, beneficial influence of parental warmth decreases (as shown in Figure 3).

Table 3 also includes a fit index, Akaike's information criteria (AIC). This index is computed-based on the log-likelihood penalized for estimated number of parameters. The smaller the index's value, the better the model fit. The AIC index decreases from Model 1 to Model 4. This suggests that more elaborate models with additional parameters fit better than the corresponding reduced model (Little, Miliken, Stroup, & Wolfinger, 1996).

Table 3. Multilevel models for effects of individual, family, and community characteristics on adolescent delinquency (unstandardized coefficients)

Independent Variables	Null Model	Model 1	Model 2	Model 3	Model 4
Community Poverty		0.07 (0.25)	0.20 (0.80)	0.17 (0.68)	0.17 (0.66)
Ethnic Diversity (ED)		0.91 (2.82)***	0.61 (2.01)*	0.23 (0.68)	0.01 (0.03)
(Ethnic Diversity) ²		-0.75 (-2.27)*	-0.43 (-1.40)	0.12 (0.29)	0.41 (0.95)
Family Economic Pressure		0.14 (5.43)***	0.13 (5.00)***	0.13 (5.31)***	0.15 (6.99)***
Single Parenthood		0.37 (0.48)	0.83 (1.11)	0.89 (1.20)	0.61 (0.83)
Family Warmth			-0.10 (-9.12)***	-0.11 (-10.06)***	-0.15 (-8.96)***
Communication			-0.21 (-26.50)***	-0.20 (-25.15)***	-0.20 (-25.24)***
Adolescent Self-esteem			-0.01 (-2.72)**	-0.02 (-4.36)***	-0.02 (-4.48)
Minority Status				0.38 (2.71)**	0.42 (2.78)**
Female				-0.64 (-14.08)***	-0.65 (-14.19)***
ED X Minority Status				-0.55 (-2.00)*	-0.65 (-2.17)*
ED X Family Warmth					0.10 (3.29)***
Constant	2.95	2.64	2.12	2.76	2.77
AIC	105879.80	105156.30	96683.10	96347.20	96333.80
Individual Level Variance	10.66	10.52	9.58	9.46	9.42
R ² (1st Level)		0.01	0.10	0.11	0.12
R ² (2nd Level)		0.46	0.54	0.54	0.52

Table 3 (Continued)

* $p < .05$.

** $p < .01$.

*** $p < .001$.

1st Level d.f = 1700

2nd Level d.f = 2008

Note: AIC = Akaike's information criteria

R^2 (1st Level) = $(\sigma^2 A - \sigma^2 M) / \sigma^2 A$ (Raudenbush & Bryk, 2002)

R^2 (2nd Level) = $(n * \tau_{00} + \sigma^2) A - (n * \tau_{00} + \sigma^2) M / (n * \tau_{00} + \sigma^2) A$ (Snijders & Boske, 1999)

A = ANOVA model

M = theoretical model

n = average group size

σ^2 = individual level variance

τ_{00} = variance of the level-one intercept

Adolescent Delinquency

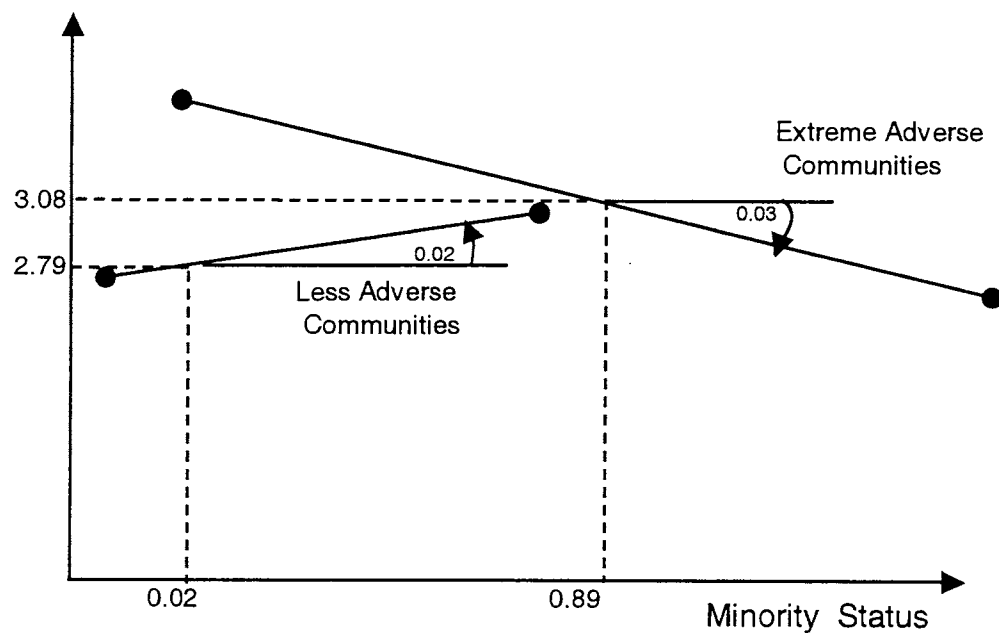


Figure 2. The moderation of the influence of minority status on adolescent delinquency by ethnic diversity

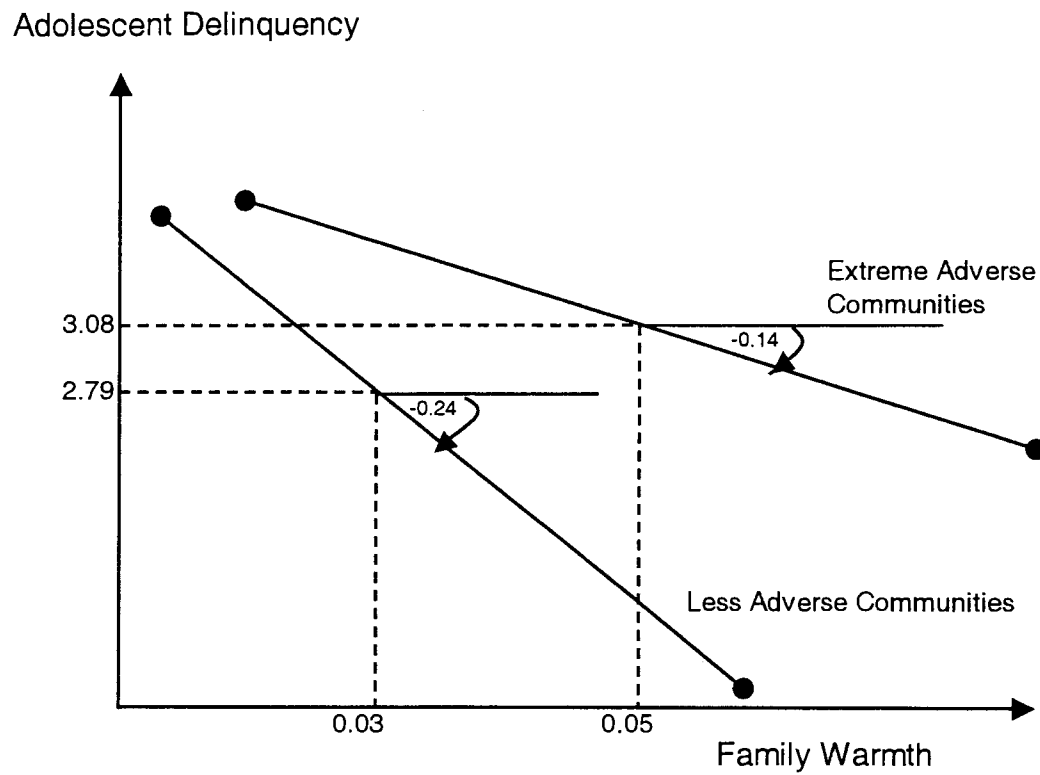


Figure 3. The moderation of the influence of family warmth on adolescent delinquency by ethnic diversity

The logic behind mediation in Table 4 is that in order to show that B mediates the influence of A on C, it is first necessary to establish that A has significant influence on C. The influence of A on C should be significantly reduced or become non-significant when B is added to the model. In this model, B should show a significant influence on C. In addition, B should be significantly influenced by A (Baron & Kenny, 1986). According to this approach, the series of multilevel models in Table 3 serve as a partial evidence that family social resources (B) mediates the influence of ethnic diversity (A) on adolescent delinquency (C). Furthermore, minority status (B) mediates the influence of ethnic diversity (A) on adolescent delinquency (C).

Table 4 examines the associations among the independent variables among themselves (A's on B's). The Table shows that family warmth and communication were negatively influenced by ethnic diversity and family economic pressure. More importantly, the nonlinear positive influence of ethnic diversity on family warmth and communication indicates that the linear negative effect levels off under high ethnic diversity. Family warmth and communication were influenced by family economic pressure net of the influence of community characteristics ($B = -.03, p < .05$ and $B = -.08, p < .001$, respectively). Consistent with regression results in Table 3, however, community poverty and single parenthood were not significant.

Table 4. Multilevel models for effects of community and family characteristics
on mediating variables (unstandardized coefficients)

Independent variables	Dependent variables	
	Family warmth	Communication
Community poverty	-0.01 (-0.04)	-0.15 (-0.54)
Ethnic diversity	-0.84 (-3.33)***	-1.00 (-2.86)**
(Ethnic diversity) ²	0.88 (3.41)***	0.92 (2.59)**
Family economic pressure	-0.03 (-1.96)*	-0.08 (-3.50)***
Single parenthood	0.95 (1.57)	-0.05 (-0.06)
Constant	0.06	0.22

* $p < .05$;

** $p < .01$;

*** $p < .001$.

²squared term

CHAPTER 5. CONCLUSIONS

The findings of the study generally supported the hypothesized model, which highlighted the various ways community characteristics influence adolescent delinquency. These findings are also supported by a previous researcher's contention that ethnic diversity influences adolescent delinquency directly and indirectly through the availability of social resources (Sampson, 1997).

According to the findings, ethnic diversity has a significant and unique positive influence on adolescent delinquency net influence of community poverty. This linear detrimental effect of ethnic diversity on adolescent delinquency, however, levels off under high ethnic diversity. These findings reveal a curvilinear association between ethnic diversity and adolescent delinquency. Furthermore, the influence of ethnic diversity partly operates through family social resources (that is, ethnic diversity erodes family social resources, which consequently contributes to adolescent delinquency). Thus, these results importantly demonstrate the important multiplicative influences among predictors.

Ethnic diversity interacts with other predictors when influencing adolescent delinquency. The interaction between community adversity and family social resources can be interpreted as the dissipation of the influence of family social resources in extremely diverse communities. In other words, the beneficial effects of family social resources is less pronounced under extreme adverse communities; that is, warmth and communication may act as a buffering effect against delinquency only in less diverse communities, but they may not be very effective as a protective factor against youth delinquency in a more diverse community, even though the availability of family social resources in those communities may be compatible to those in less adverse communities.

The findings also reveal an interaction between ethnic diversity and minority status. That is, delinquency is higher among the minority than among the non-minority. Being a minority generally has a detrimental effect on delinquency. However, being a minority in a more diverse community has a less detrimental effect on delinquency. In other words, ethnic diversity moderates the influence of minority status on adolescent delinquency.

Second, additional findings revealed that family adversity, specifically family economic pressure, has a linear detrimental effect on adolescent delinquency. The effects of family economic pressure increase the level of adolescent delinquent behavior. In addition, family adversity, specifically family economic pressure, has a linear detrimental effect on family social resources (family warmth and communication) after controlling for community characteristics. According to these findings, then, family adversity (specifically family economic pressure) operates partially through family social resources, hence affecting family social resources (as shown in Table 3). The influence of family social resources accounted for the 54% of the total variance, which is an increase of 8% of the total variance from model 1 to model 2. (in Table 3). Finally, as expected, the findings reveal that female adolescents have a lower delinquency rate as compared to their male counterparts.

In general, my findings are consistent with the hypothesized model for additive and multiplicative influences. The findings explain the mechanisms by which community adversity influences adolescent delinquency. First, the findings support the hypothesized role of community adversity (ethnic diversity) as to its unique influence on adolescent delinquency. Second, the findings support the hypothesized influence of community adversity on adolescent delinquency through family social resources (family warmth and communication). Third, the findings support the hypothesized moderating role of ethnic

diversity on the relationship between minority status and adolescent delinquency, and also between family characteristics (family economic pressure, single parenthood, family warmth, and communication) and adolescent delinquency.

I therefore conclude that the results and discussion presented in this paper provide convincing evidence to support the importance of examining the multiplicative effects of multi-level factors simultaneously. I demonstrate that adolescent delinquency is uniquely attributed to individual, family and community factors. This is important because of both unique influences and the joint influences of these factors on youth outcome. It is thus worth noting that minorities are just as vulnerable as non-minorities to family adversities such as family economic pressure and single parenthood.

Although community poverty and ethnic diversity are significantly correlated, these two characteristics are distinct. Therefore, to capture the effect of ethnic diversity on delinquency, I had to control for community poverty. Similarly, to determine whether race makes a difference, I tested for the interaction between ethnic diversity and minority status. The role played by the ethnic composition of the community was race-specific. Thus, my findings show that in general, community composition has a detrimental influence on adolescent delinquency, but a strong beneficial moderating influence for minority. These findings are thus substantially important to programs and policies that are race-specific, since very little is now known about who benefits and who does not benefit from ethnic diversity. For instance, previous research findings capturing adolescent problems through individual and family factors have generally not taken into account community composition (or rather, community poverty). In contrast, however, this present study emerged as a result of incorporating community composition into the analysis. Thus, future research aimed at

capturing youth outcome should definitely incorporate individual, family, and community factors (including individual, community level variables, and cross-level multiplicative effects). As earlier stated in my study, it is not possible to isolate family from community or individual from family since individuals are nested within families and families are nested within communities (Leventhal & Brooks-Gunn, 2000; Bronfenbrenner, 1986).

Also because I only examined a few variables and two interactions (between ethnic diversity and minority status, and between ethnic diversity and family warmth), future research should include more variables and investigate more interactions between community factors and individual factors, as well as those between community factors and family factors. This will help in determining the unique influences and moderating influences of different level factors on adolescent behavioral outcome.

Regarding ethnic diversity, however, previous research reveals that there may be dense and strong informal social relationships among minority group members who are highly segregated and hence have less feelings of frustration, powerlessness, and hopelessness among themselves (Ross et al., 2001; Aneshenshel & Saccoff, 1996). The findings on the multiplicative influence between family and community on youth outcomes suggest that ethnic diversity in the community has more beneficial effects on minority than on non-minority. That is, moving minorities out of adverse communities into affluent communities may result in losing the beneficial influence of an ethnically diverse environment. Thus, programs and policies aimed at minority youth and parents should focus on reducing family and community adversities, while retaining the beneficial influences inherent with diversity.

Despite the empirical support for my hypothesis, several limitations must be noted. First, families with low levels of social resources and with delinquent adolescents may have self-selected into adverse communities. Such selection effects contradict the hypothesized and estimated community influences. Second, except for the 1999 Census data, the analyses were based largely on cross-sectional data; thus, issues regarding causality cannot be fully addressed. Third, the reports about social resources, as well as the subjective measure of community social resources may be biased due to individual negative feelings. Fourth, community or Census-tract data as a unit of analysis may not be the appropriate unit with which to assess community characteristics. Thus, to increase our confidence in causal mechanisms and applicability of findings, these analyses must also be replicated with improved measures using longitudinal data with adequate time gap.

Despite these limitations, this study provided important new information about the (a) unique influence of ethnic diversity on adolescent delinquency; (b) mediating mechanism involving family social resources; (c) contextual dissipation of the influences of some family social resources under highly adverse community environments. More importantly, the proximal influence of family social resources on adolescent delinquency emphasizes the need for grassroots family intervention programs to improve parental practices, particularly among disadvantaged parents in minority groups.

In summary, by understanding the multilevel, social, and familial processes through which the community influences adolescents' delinquent behavior, we will be able to design and implement effective prevention and intervention policies and programs at different levels which focus on reducing adolescent delinquent behavior.

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